WE CLAIM:

1. A structure comprising:

a plate;

a light-blocking region overlying the plate and being generally non-transmissive of visible light, an opening extending largely through the light-blocking region above where the plate is generally transmissive of visible light;

a light-emissive region overlying the plate and situated at least partially in the opening in the light-blocking region;

a getter region overlying at least part of the light-blocking region and extending no more than partially laterally across the light-emissive region; and

a primary electrically non-insulating layer overlying at least part of the getter region or/and at least part of the light-emissive region.

2. A structure as in Claim 1 wherein an opening extends through the getter region generally laterally where the light-emissive region overlies the plate.

3. A structure as in Claim 1 wherein the light-blocking region is largely absorptive of visible light which passes through the plate and impinges on the light-blocking region.

4. A structure as in Claim 1 wherein the non-insulating layer is electrically conductive.

5. A structure as in Claim 4 further including means for applying a selected electrical potential to the non-insulating layer during operation of the structure.

6. A structure as in Claim 1 wherein the non-insulating layer overlies at least the light-emissive region.

7. A structure as in Claim 6 wherein the non-insulating layer is generally reflective of visible light.

8. A structure as in Claim 1 wherein the non-insulating layer overlies the getter and light-emissive regions.

9. A structure as in Claim 8 wherein the non-insulating layer is perforated.

10. A structure as in Claim 1 wherein the light-emissive region emits light upon being struck by electrons of sufficiently high energy.

11. A structure as in Claim 1 wherein the light-blocking region laterally surrounds the light-emissive region.

12. A structure as in Claim 1 wherein the light-blocking region extends further away from the plate than the light-emissive region.

13. A structure as in Claim 1 wherein the getter region comprises at least one of aluminum, titanium, vanadium, iron, zirconium, niobium, molybdenum, barium, tantalum, tungsten, and thorium.

14. A structure as in Claim 1 wherein the getter region comprises a titanium-zirconium alloy.

15. A structure as in Claim 1 wherein the getter region consists largely of only a single atomic element.

16. A structure as in Claim 15 wherein the single atomic element is a one of aluminum, titanium, vanadium, iron, zirconium, niobium, molybdenum, barium, tantalum, tungsten, and thorium.

17. A structure as in Claim 1 further including an additional region situated over at least part of the light-blocking region and under at least part of the non-insulating layer.

18. A structure as in Claim 17 wherein the additional region is situated over at least part of the getter region.

19. A structure as in Claim 17 wherein the additional region is largely impervious to passage of gases.

20. A structure as in Claim 17 wherein the additional region is largely impervious to the passage of electrons.

21. A structure as in Claim 17 wherein the additional region covers all, or nearly all, of the light-blocking region along its outside surface.

22. A structure as in Claim 1 further including a protective layer situated over at least part of the getter region and under the non-insulating layer, the protective layer lying between at least part of the getter region and at least part of the light-emissive region.

23. A structure as in Claim 22 wherein the protective layer is largely impervious to passage of electrons.

24. A structure as in Claim 1 wherein the light-blocking region has a remote surface most distant from the plate, the getter region overlying at least part of the remote surface of the light-blocking region.

25. A structure as in Claim 24 wherein the getter region overlies largely all of the remote surface of the light-blocking region.

26. A structure as in Claim 1 wherein the getter region extends at least partway down into the opening in the light-blocking region.

27. A structure as in Claim 1 wherein the getter region extends substantially all the way down into the opening in the light-blocking region.

28. A structure as in Claim 1 wherein the getter region extends into the opening in the light-blocking region and partially over the plate at the bottom of the opening in the light-blocking region.

29. A structure as in Claim 1 further including a device for emitting electrons which strike the light-emissive region and cause it to emit light.

30. A structure as in Claim 29 within the electron-emitting device includes a getter region situated at least partially in an active electron-emitting portion of the electron-emitting device.

31. A structure comprising:

a plate;

a light-blocking region overlying the plate and being generally non-transmissive of visible light, an opening extending largely through the light-blocking region above where the plate is generally transmissive of visible light;

a light-emissive region overlying the plate and situated at least partially in the opening in the light-blocking region;

a primary electrically non-insulating layer overlying at least part of the light-blocking region; and

a getter region overlying the non-insulating layer above the light-blocking region, an opening extending largely through the getter region generally laterally where the light-emissive region overlies the plate.

32. A structure as in Claim 31 wherein the light-blocking region is largely absorptive of visible light which passes through the plate and impinges on the light-blocking region.

33. A structure as in Claim 31 wherein the non-insulating layer is electrically conductive.

34. A structure as in Claim 33 further including means for applying a selected electrical potential to the non-insulating layer during operation of the structure.

35. A structure as in Claim 31 wherein the non-insulating layer also overlies at least part of the light-emissive region.

36. A structure as in Claim 35 wherein the non-insulating layer is generally reflective of visible light.

37. A structure as in Claim 31 wherein the light-emissive region emits light upon being struck by electrons of sufficiently high energy.

38. A structure as in Claim 31 wherein the light-blocking region extends further away from the plate than the light-emissive region.

39. A structure as in Claim 31 further including a device for emitting electrons which strike the light-emissive region and cause it to emit light.

40. A structure as in Claim 39 wherein the electron-emitting device includes a getter region situated in an active electron-emitting portion of the electron-emitting device.

41. A structure comprising:

a plate;

an electron emissive element overlying the plate;

a support region overlying the plate; and

a getter region overlying at least part of the support region, a composite opening extending through the getter region and through the support region generally laterally where the electron-emissive element overlies the plate.

42. A structure as in Claim 41 further including a dielectric layer overlying the plate below the support region, the electron-emissive element situated mostly in an opening in the dielectric layer.

43. A structure as in Claim 41 further including a control electrode for selectively extracting electrons from the electron-emissive element or for selectively passing electrons emitted by the electron-

emissive element, the control electrode overlying the plate and having an opening through which the electron-emissive element is exposed.

44. A structure as in Claim 43 further including electrically insulating material extending over at least part of the control electrode.

45. A structure as in Claim 43 wherein the support region extends further away from the plate than the control electrode.

46. A structure as in Claim 41 wherein the support region comprises a base focusing structure of an electron-focusing system for focusing electrons emitted by the electron-emissive element.

47. A structure as in Claim 46 wherein the electron-focusing system includes an electrically non-insulating focus coating which comprises the getter region, whereby at least part of the focus coating overlies the base focusing structure.

48. A structure as in Claim 46 wherein the electron-focusing system includes an electrically non-insulating focus coating situated over at least part of the getter region, an opening extending through the focus coating at least generally laterally where the electron-emissive element overlies the plate.

49. A structure as in Claim 48 wherein the focus coating is perforated.

50. A structure as in Claim 46 wherein the electron-focusing system includes an electrically non-insulating focus coating situated over at least part of the base focusing structure and under at least part of the getter region, an opening extending through the focus coating at least generally laterally where the electron-emissive element overlies the plate.

51. A structure as in Claim 41 wherein the support region comprises a control electrode for selectively extracting electrons from the electron-emissive element or for selectively passing electrons emitted by the electron-emissive element.

52. A structure as in Claim 51 further including a raised section overlying the plate and extending over at least part of the control electrode, the getter region being exposed through or/and situated in an opening in the raised section.

53. A structure as in Claim 51 wherein the getter region focuses electrons emitted by the electron-emissive element.

54. A structure as in Claim 53 wherein the getter region comprises electrically non-insulating material substantially electrically decoupled from the control electrode.

55. A structure as in Claim 54 further including electrically insulating material situated between at

least part of the control electrode and at least part of the getter region.

56. A structure as in Claim 41 wherein the getter region comprises at least one of aluminum, titanium, vanadium, iron, zirconium, niobium, molybdenum, barium, tantalum, tungsten, and thorium.

57. A structure as in Claim 41 wherein the getter region consists largely of only a single atomic element.

58. A structure as in Claim 57 wherein the single atomic element is one of aluminum, titanium, vanadium, iron, zirconium, niobium, molybdenum, barium, tantalum, tungsten, and thorium.

59. A structure as in Claim 41 further including a device for emitting light upon being struck by electrons emitted by the electron-emissive element.

60. A structure as in Claim 59 wherein the light-emitting device includes a getter region situated in an active light-emitting portion of the light-emitting device.

61. A structure comprising:

a plate;

an electron-emissive element overlying the plate;

a control electrode for selectively extracting electrons from the electron-emissive element or for selectively passing electrons emitted by the electron-

emissive element, the control electrode overlying the plate and having an opening through which the electron-emissive element is exposed; and

a getter region overlying at least part of the control electrode and contacting, or connected by directly underlying material to, the control electrode.

62. A structure as in Claim 61 wherein an opening extends through the getter region generally laterally where the electron-emissive element overlies the plate.

63. A structure as in Claim 61 further including a dielectric layer overlying the plate below the control electrode, the electron-emissive element situated mostly in an opening through the dielectric layer.

64. A structure as in Claim 61 further including a raised section overlying the plate and extending over at least part of the control electrode, the electron-emissive element being exposed through a primary opening in the raised section.

65. A structure as in Claim 64 wherein the getter region is exposed through or/and situated in the primary opening in the raised section.

66. A structure as in Claim 65 wherein the getter region comprises electrically non-insulating material electrically coupled to the control electrode.

67. A structure as in Claim 66 wherein the raised section comprises electrically non-insulating material substantially electrically decoupled from both the control electrode and the non-insulating material of the getter region.

68. A structure as in Claim 64 wherein the getter region is exposed through or/and situated in a further opening in the raised section, no operable electron-emissive element being exposed through the further opening in the raised section.

69. A structure as in Claim 68 wherein the getter region compromises electrically non-insulating material substantially electrically decoupled from the control electrode.

70. A structure as in Claim 69 further including an electrically insulating region situated between the getter region and the control electrode.

71. A structure as in Claim 69 wherein the raised section comprises electrically non-insulating material electrically coupled to the non-insulating material of the getter region.

72. A structure as in Claim 64 wherein the raised section comprises an electron-focusing system for focusing electrons emitted by the electron-emissive element.

73. A structure as in Claim 61 wherein the getter region focuses electrons emitted by the electron-emissive element.

74. A structure as in Claim 73 wherein the getter region comprises electrically non-insulating material substantially electrically decoupled from the control electrode.

75. A structure as in Claim 74 further including electrically insulating material situated between at least part of the control electrode and at least part of the getter region.

76. A structure as in Claim 61 further including a device for emitting light upon being struck by electrons emitted by the electron-emissive element.

77. A structure as in Claim 76 wherein the light-emitting device includes a getter region situated in an active light-emitting portion of the light-emitting device.

78. A structure comprising:

a plate;

an electron-emissive element overlying the plate; and

a getter region overlying the plate, the getter region being shaped, positioned, and controlled to focus electrons emitted by the electron-emissive element.

79. A structure as in Claim 78 wherein the getter region receives a focus potential.

80. A structure as in Claim 78 further including a control electrode for selectively extracting electrons emitted by the electron-emissive element or for selectively passing electrons emitted by the electron-emissive element, an opening extending through the control electrode generally laterally where the electron-emissive element overlies the plate.

81. A structure as in Claim 80 wherein the getter region comprises electrically non-insulating material substantially electrically decoupled from the control electrode.

82. A structure as in Claim 81 further including an electrically insulating layer overlying at least part of the control electrode, the getter region overlying at least part of the insulating layer and being of greater average thickness than the insulating layer.

83. A structure as in Claim 78 wherein an opening extends through the getter region generally laterally where the electron-emissive element overlies the plate.

84. A structure comprising:

a plate;

a group of electron-emissive elements overlying the plate;

a group of laterally separated control electrodes for selectively extracting electrons from the electron-emissive elements or for selectively passing electrons emitted by the electron-emissive elements, the control electrodes overlying the plate, the electron-emissive elements being exposed through respective openings in the control electrodes; and

a getter region overlying the plate at a location between where a consecutive pair of the control electrodes overlie the plate.

85. A structure as in Claim 84 wherein the getter region comprises electrically non-insulating material electrically coupled to no more than one of the control electrodes.

86. A structure as in Claim 84 wherein the getter region comprises electrically non-insulating material largely electrically decoupled from each control electrode.

87. A structure as in Claim 84 wherein the getter region is connected by directly underlying material to the plate.

88. A structure as in Claim 84 further including a raised section overlying the plate and extending over at least part each control electrode, the electron-emissive elements also being exposed through respective openings in the raised section, the getter region being exposed through or/and situated in an opening in the raised section.

89. A structure as in Claim 88 wherein the raised section comprises an electron-focusing system for focusing electrons emitted by the electron-emissive elements.

90. A structure as in Claim 89 wherein the raised section further includes an additional getter region situated over at least part of an electrically non-insulating base focusing structure of the electron-focusing system.

91. A structure as in Claim 84 further including a dielectric layer overlying the plate, the electron-emissive elements being situated mostly in respective laterally separated openings in the dielectric layer, the control electrodes and getter region overlying the dielectric layer.

92. A structure as in Claim 91 further including an electrically conductive intermediate region situated between at least part of the dielectric layer and at least part of the getter region.

93. A structure as in Claim 92 further including a raised section overlying at least part of the dielectric layer and extending over at least part of each control electrode, the electron-emissive elements being exposed through respective openings in the raised section, the getter region being exposed through or/and situated in an additional opening in the raised section.

94. A structure as in Claim 78 further including a device for emitting light upon being struck by electrons emitted by the emissive elements.

95. A structure as in Claim 94 wherein the light-emitting device includes a getter region situated in an active light-emitting portion of the light-emitting device.

96. A structure as in Claim 78 wherein the getter region comprises at least one of aluminum, titanium, vanadium, iron, zirconium, niobium, molybdenum, barium, tantalum, tungsten, and thorium.

97. A structure as in Claim 78 wherein the getter region consists largely of only a single atomic element.

98. A structure as in Claim 78 wherein the single atomic element is one of aluminum, titanium, vanadium, iron, zirconium, niobium, molybdenum, barium, tantalum, tungsten, and thorium.

99. A structure comprising:

a plate;

a group of electron-emissive elements overlying the plate;

a group of laterally separated control electrodes for selectively extracting electrons from the electron-emissive elements or for selectively passing electrons

emitted by the electron-emissive elements, the control electrodes overlying the plate;

a raised section overlying the plate and extending over at least part of each control electrode; and

a getter region overlying the plate and exposed through or/and situated in a primary opening in the raised section.

100. A structure as in Claim 99 wherein the electron-emissive elements are exposed through (a) respective openings through the control electrodes and (b) respective further openings through the raised section, one of the further openings in the raised section potentially being the primary opening in the raised section.

101. A structure as in Claim 99 wherein the getter region overlies at least part of a specified one of the control electrodes.

102. A structure as in Claim 101 wherein one of the electron-emissive elements is exposed through the primary opening in the raised section.

103. A structure as in Claim 101 wherein the getter region comprises electrically non-insulating material electrically coupled to the specified control electrode.

104. A structure as in Claim 103 wherein the raised section comprises electrically non-insulating material substantially electrically decoupled from both

the control electrodes and the non-insulating material of the getter region.

105. A structure as in Claim 101 wherein no operable electron-emissive element is exposed through the opening in the raised section.

106. A structure as in Claim 105 wherein the getter region comprises electrically non-insulating material substantially electrically decoupled from the control electrodes.

107. A structure as in Claim 106 urther including an electrically insulating region situated between the getter region and the specified control electrode.

108. A structure as in Claim 106 wherein the raised section comprises electrically non-insulating material electrically coupled to the non-insulating material of the getter region.

109. A structure as in Claim 99 wherein the getter region overlies the plate at a location between where a consecutive pair of the control electrodes overlie the plate.

110. A structure as in Claim 109 further including a dielectric layer overlying the plate, the raised section, control electrodes, and getter region each overlying at least part of the dielectric layer.

111. A structure as in Claim 110 further including an intermediate electrically conductive region situated between at least part of the dielectric layer and at least part of the getter region.

112. A structure as in Claim 110 wherein the electron-emissive elements are (a) mostly situated in respective openings in the dielectric layer, (b) exposed through respective openings in the control electrodes, and (c) exposed through respective openings in the raised section.

113. A structure as in Claim 99 wherein the raised section comprises an electron-focusing system for focusing electrons emitted by the electron-emissive elements.

114. A structure comprising:

a plate;

a dielectric layer overlying the plate;

a group of electron-emissive elements overlying the plate and situated mostly in respective laterally separated openings in the dielectric layer; and

a getter region overlying at least part of the dielectric layer and contacting, or connected by directly underlying material to, the dielectric layer, at least part of the getter region situated above a location between a pair of the openings in the dielectric layer.

115. A structure as in Claim 114 wherein the getter region focuses electrons emitted by the electron-emissive elements.

116. A structure as in Claim 114 further including a group of laterally separated control electrodes for selectively extracting electrons respectively from the electron-emissive elements or for selectively passing electrons emitted respectively by the electron-emissive elements, at least part of each control electrode overlying the dielectric layer, the electron-emissive elements being exposed through respective openings in the control electrodes.

117 A structure as in Claim 116 further including a raised section overlying at least part of the dielectric layer and extending over at least part of each control electrode, the electron-emissive elements also being exposed through respective openings in the raised section.

118. A structure as in Claim 117 wherein the getter region overlies at least part of a support region of the raised section.

119. A structure as in Claim 117 wherein the support region comprises a base focusing structure of an electron-focusing system for focusing electrons emitted by the electron-emissive elements, the electron-focusing system including an electrically non-insulating focus coating which comprises, overlies at

least part of, or underlies at least part of the getter region.

120. A structure as in Claim 116 wherein the getter region overlies the dielectric layer at a location between a consecutive pair of the control electrodes.

121. A structure as in Claim 120 further including a raised section overlying at least part of the dielectric layer and extending over at least part of each control electrode, the electron-emissive elements being exposed through respective primary openings in the raised section, the getter region also being exposed through or/and situated in a further opening in the raised section, the further opening in the raised section potentially being one of the primary openings in the raised section.

122. A structure as in Claim 121 further including an electrically conductive intermediate region situated between at least part of the dielectric layer and at least part of the getter region.

123. A structure as in Claim 116 wherein the getter region is situated over at least part of one of the control electrodes.

124. A structure as in Claim 123 further including a raised section overlying at least part of the dielectric layer and extending over at least part of each control electrode, the electron-emissive elements

being exposed through respective openings in the raised section, the getter region being exposed through or/and situated in the raised section's opening that exposes the electron-emissive element also exposed through the opening in the control electrode which the getter region overlies.

125. A structure as in Claim 116 wherein the getter region focuses electrons emitted by the electron-emissive elements.

126. A structure as in Claim 125 wherein the getter region comprises electrically non-insulating material substantially electrically decoupled from the control electrode.

127. A method comprising steps of:

furnishing a structure in which a light-blocking region generally non-transmissive of visible light overlies a plate, an opening extends largely through the light-blocking region above where the plate is generally transmissive of visible light, a light-emissive region is situated at least partially in the opening in the light-blocking region, and a getter region overlies at least part of the light-blocking region and extends no more than partially over the light-emissive region; and

forming a primary electrically non-insulating layer over at least part of the getter region or/and over at least part of the light-emissive region.

128. A method as in Claim 127 wherein the structure-furnishing step comprises:

providing an initial structure in which the getter region overlies at least part of the light-blocking region above the plate with the opening extending through the light-blocking region; and

providing the light-emissive region at least partially in the opening in the light-blocking region.

129. A method as in Claim 128 wherein the step of providing the initial structure comprises:

forming a layer of light-blocking material over the plate;

forming a layer of getter material over at least part of the layer of light-blocking material;

forming an opening through the layer of getter material general laterally where the opening in the light-blocking region is to be located; and

etching the layer of light-blocking material through the opening in the layer of getter material to form the opening in the light-blocking region.

130. A method as in Claim 128 wherein the step of providing the initial structure comprises:

providing a mask over the plate such that the mask has an opening generally laterally where the light-blocking region is intended to be;

providing light-blocking material in the opening in the mask;

providing getter material over the light-blocking material; and

removing the mask to lift off any material overlying the mask.

131. A method as in Claim 127 wherein the structure-furnishing step comprises:

forming the light-blocking region over the plate with the opening extending through the light-blocking region;

performing one of (a) providing the getter region over at least part of the light-blocking region and (b) providing the light-emissive region at least partially in the opening in the light-emissive region; and

performing the other of these two providing steps.

132. A method as in Claim 131 wherein the step of providing the getter region is performed before the step of providing the light-emissive region.

133. A method as in Claim 131 wherein the step of providing the getter region comprises physically depositing getter material over the light-blocking region at an average tilt angle which, as measured relative to a line extending generally perpendicular to the plate, is sufficiently large that the getter material accumulates only partway down into the opening in the light-blocking region.

134. A method as in Claim 131 further including, subsequent to the step of forming the light-blocking region and prior to both of the performing steps, the step of forming an intermediate layer over at least part of the light-blocking region, the getter region

later being provided over at least part of the intermediate layer.

135. A method as in Claim 134 wherein the step of providing the getter region comprises selectively depositing getter material over the intermediate layer.

136. A method as in Claim 135 wherein the step of selectively depositing getter material comprises at least one of electrophoretically/dielectrophoretically depositing getter material and electrochemically depositing getter material.

137. A method as in Claim 136 wherein the intermediate layer is electrically conductive.

138. A method as in Claim 134 wherein the intermediate layer extends at least partway down into the opening in the light-blocking region but does not extend significantly over the plate at the bottom of the opening in the light-blocking region.

139. A method as in Claim 134 wherein the step of providing the intermediate layer comprises physically depositing intermediate material over the light-blocking region at an average tilt angle which, as measured relative to a line extending generally perpendicular to the plate, is sufficiently large that the intermediate material accumulates only partway down into the opening in the light-blocking region.

140. A method as in Claim 131 wherein the step of providing the getter region comprises selectively depositing getter material over the light-blocking region.

141. A method as in Claim 140 wherein the step of selectively depositing getter material comprises at least one of electrophoretically/dielectrophoretically depositing getter material and electrochemically depositing getter material.

142. A method as in Claim 140 wherein the light-blocking region comprises electrically conductive material where the getter material is deposited over the light-blocking region.

143. A method as in Claim 140 wherein the getter material extends at least partway down into the opening in the light-blocking region but does not extend significantly over the plate at the bottom of the opening in the light-blocking region.

144. A method as in Claim 140 further including the step of providing an additional region over at least part of the getter region so that the non-insulating layer later overlies at least part of the additional region.

145. A method as in Claim 131 further including the step of providing an additional region over the light-blocking region so that the non-insulating layer later overlies the additional region.

146. A method as in Claim 145 wherein the additional region overlies at least part of the getter region.

147. A method as in Claim 145 wherein the additional region overlies all, or nearly all, of the light-blocking region along its outside surface.

148. A method as in Claim 147 wherein the additional region is largely impervious to passage of gases.

149. A method as in Claim 148 wherein the additional region is also largely impervious to passage of electrons.

150. A method as in Claim 127 wherein an opening extends through the getter region generally laterally where the light-emissive region overlies the plate.

151. A method as in Claim 127 wherein the non-insulating layer overlies at least part of at least the light-emissive region.

152. A method as in Claim 127 wherein the non-insulating layer overlies at least part of the getter region and at least part of the light-emissive region.

153. A method as in Claim 127 wherein the non-insulating layer is electrically conductive.

154. A method as in Claim 153 further including the step of applying a selected electrical potential to the non-insulating layer.

155. A method comprising the steps of:

furnishing a structure in which a light-blocking region generally non-transmissive of visible light overlies a plate, an opening extends largely through the light-blocking region above where the plate is generally transmissive of visible light, a light-emissive region is situated at least partially in the opening in the light-blocking region, and an electrically non-insulating layer overlies at least part of the light-blocking region; and

providing a getter region over at least part of the non-insulating layer above the light-blocking region such that an opening extends largely through the getter region generally laterally where the light-emissive region overlies the plate.

156. A method as in Claim 155 wherein the structure-furnishing step comprises:

forming the light-blocking region over the plate with the opening extending largely through the light-blocking region;

performing one of (a) providing the light-emissive region at least partially in the opening in the light-blocking region and (b) providing the non-insulating layer over at least part of the light-blocking region; and

performing the other of these two providing steps.

157. A method as in Claim 156 wherein the step of providing the light-emissive region is performed before the step of providing the non-insulating layer.

158. A method as in Claim 155 wherein the non-insulating layer also overlies at least part of the light-emissive region.

159. A method as in Claim 158 wherein:

the non-insulating layer has a recessed portion where the non-insulating layer extends into and across the opening in the light-blocking region; and

the step of providing the getter region comprises physically depositing getter material over the non-insulating layer at an average tilt angle which, as measured relative to a line extending generally perpendicular to the plate, is sufficiently large that the getter material accumulates only partway down into the recessed portion of the non-insulating layer.

160. A method as in Claim 155 wherein the non-insulating layer is electrically conductive.

161. A method as in Claim 160 further including the step of applying a selected electrical potential to the non-insulating layer.

162. A method comprising the steps of:

thermally spraying getter material over a plate to form a light-blocking getter region generally non-transmissive of visible light over the plate using a mask to define an opening through the light-blocking

getter region above where the plate is generally transmissive of visible light; and

providing a light-emissive region at least partially in the light-blocking getter region.

163. A method as in Claim 162 wherein the thermally spraying step entails:

thermally spraying a layer of getter material over the plate; and

etching the layer of getter material through an opening in a mask provided over the layer of getter material to remove an exposed portion of the layer of getter material.

164. A method as in Claim 162 wherein the thermally spraying step entails:

thermally spraying getter material into an opening in a mask provided over the plate; and

removing the mask to lift off any material overlying the mask.

165. A method as in Claim 162 further including the step of forming an electrically non-insulating layer over the light-blocking getter region or/and the light-emissive region.

166. A method as in Claim 165 wherein the non-insulating layer overlies at least the light-emissive region.

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167. A method as in Claim 166 further including of applying a selected electrical potential to the non-insulating layer.

168. A method as in Claim 162 wherein the getter material comprises metal.

169. A method as in Claim 162 wherein the getter material comprises at least one of aluminum, titanium, vanadium, iron, zirconium, niobium, molybdenum, barium, tantalum, tungsten, and thorium.

170. A method comprising the steps of:

performing one of (a) providing an electron-emissive element over a plate, (b) providing a support region over the plate, and (c) providing a getter region over the support region;

performing another one of the providing steps; and

performing the remaining one of the providing steps such that the step of providing the getter region is initiated after the step of providing the support region and such that a composite opening extends through the getter region and through the support region generally laterally where the electron-emissive element overlies the plate.

171. A method as in Claim 170 wherein the step of providing the support region is initiated after the step of providing the electron-emissive element.

172. A method as in Claim 170 wherein the step of providing the support region entails forming the

support region to comprise a base focusing structure of an electron-focusing system for focusing electrons emitted by the electron-emissive element, the opening in the support region thereby being an opening in the base focusing structure.

173. A method as in Claim 172 wherein the electron-focusing system includes an electrically non-insulating focus coating comprising the getter region.

174. A method as in Claim 173 wherein the step of providing the getter region comprises physically depositing getter material over the base focusing structure at an average tilt angle which, as measured relative to a line extending generally perpendicular to the plate, is sufficiently large that the getter material accumulates only partway down into the opening in the base focusing structure.

175. A method as in Claim 172 wherein the step of providing the support region further entails forming the support region to include an electrically non-insulating focus coating overlying the base focusing structure such that the getter region later overlies the focus coating.

176. A method as in Claim 175 wherein the step of providing the getter region comprises selectively depositing getter material over the focus coating.

177. A method as in Claim 176 wherein the step of selectively depositing getter material comprises at

least one of electrophoretically/dielectrophoretically depositing getter material and electrochemically depositing getter material.

178. A method as in Claim 177 wherein the step of selectively depositing getter material comprises physically depositing getter material over at least part of the focus coating at an average tilt angle which, as measured relative to a line extending generally perpendicular to the plate, is sufficiently large that the getter material accumulates only partway down into the opening in the base focusing structure.

179. A method as in Claim 172 further including the step of forming an electrically non-insulating focus coating over the getter region.

180. A method as in Claim 179 wherein the step of providing the getter region comprises physically depositing getter material over the base focusing structure at an average tilt angle which, as measured relative to a line extending generally perpendicular to the plate, is sufficiently large that the getter material accumulates only partway down into the opening in the base focusing structure.

181. A method as in Claim 170 wherein the step of providing the support region entails forming the support region to comprise a control electrode for selectively extracting electrons from the electron-emissive element or for selectively passing electrons emitted by the electron-emissive element.

182. A method as in Claim 181 further including a step of providing electrically insulating material over at least part of the control electrode.

183. A method as in Claim 182 wherein the step of providing the getter region comprises providing electrically non-insulating getter material at a location suitable for focusing electrons emitted by the electron-emissive element.

184. A method comprising the steps of:

performing one of (a) providing a control electrode over a plate, (b) providing an electron-emissive element over the plate, and (c) providing a getter region over the control electrode;

performing another one of the providing steps; and

performing the remaining one of the providing steps such that the step of providing the getter region is initiated after the step of providing the control electrode, such that the control electrode has an opening through which the electron-emissive element is exposed, such that the getter region contacts, or is connected by directly underlying material to, the control electrode, and such that the control electrode is operable for selectively extracting electrons from the electron-emissive element or for selectively passing electrons emitted by the electron-emissive element.

185. A method as in Claim 184 wherein the step of providing the getter region is initiated after the step of providing the electron-emissive element.

186. A method as in Claim 184 wherein the step of providing the getter region comprises selectively depositing getter material over the control electrode.

187. A method as in Claim 186 wherein the step of selectively depositing getter material comprises at least one of electrophoretically/dielectrophoretically depositing getter material and electrochemically depositing getter material.

188. A method as in Claim 184 further including the step of providing electrically insulating material over at least part of the control electrode.

189. A method as in Claim 188 wherein the step of providing the getter region comprises providing electrically non-insulating getter material at a location suitable for focusing electrons emitted by the electron-emissive element.

190. A method comprising the steps of:

performing one of (a) providing a group of laterally separated control electrodes over a plate, (b) providing a group of electron-emissive elements over the plate, and (c) providing a getter region over the plate;

performing another one of the providing steps; and

performing the remaining one of the providing steps such that the electron-emissive elements are exposed through respective openings in the control electrodes, such that the getter region overlies the plate at a location between where a consecutive pair of the control electrodes overlie the plate, and such that the control electrodes are operable for selectively extracting electrons from the electron-emissive elements or for selectively passing electrons emitted by the electron-emissive elements.

191. A method as in Claim 190 wherein the step of providing the getter region is initiated after the step of providing the control electrodes.

192. A method as in Claim 190 wherein the step of providing the getter region comprises selectively depositing getter material over the plate.

193. A method as in Claim 190 wherein:

the method further includes the step of providing a dielectric layer over the plate such that, after the dielectric layer, control electrodes, electron-emissive elements, and getter region are all provided, the electron-emissive elements are mostly situated in respective laterally separated openings in the dielectric layer, and the control electrodes and getter region overlie the dielectric layer; and

the step of providing the getter region comprises selectively depositing getter material over the dielectric layer.

194. A method as in Claim 193 wherein:

the method further includes the step of providing an electrically conductive intermediate region over the dielectric layer; and

the step of selectively depositing getter material comprises depositing getter material over the intermediate region by at least one of electrophoretic/dielectrophoretic deposition and electrochemical deposition.

195. A method as in Claim 190 further including the step of providing a raised section over the plate such that, after the control electrodes, electron-emissive elements, raised section, and getter region are all provided, the raised section extends over the control electrodes, the electron-emissive elements are also exposed through respective openings in the raised section, and the getter region is exposed through or/and situated in an opening in the raised section.

196. A method as in Claim 195 wherein the raised section comprises an electron-focusing system for focusing electrons emitted by the electron-emissive elements.

197. A method as in Claim 195 wherein the step of providing the getter region comprises selectively depositing getter material into the opening in the raised section.

198. A method as in Claim 190 wherein:

the method further includes the steps of (a) providing a dielectric layer over the plate and (b) providing a raised section over the dielectric layer such that, after the dielectric layer, control electrode, electron-emissive elements, raised section, and getter are provided, the electron-emissive elements are mostly situated in respective laterally separated openings in the dielectric layer, and the getter region is exposed through or/and situated in an opening in the raised section; and

the step of providing the getter region comprises selectively depositing getter material into the opening in the raised section.

199. A method as in Claim 198 wherein:

the method further includes the step of providing an electrically conductive intermediate region over the dielectric layer; and

the step of selectively depositing getter material comprises depositing getter material into the opening in the raised section and over the intermediate region by at least one of electrophoretic/dielectrophoretic deposition and electrochemical deposition.

200. A method comprising the steps of:

performing one of (a) providing a group of laterally separated control electrodes over a plate, (b) providing a group of electron-emissive elements over the plate, (c) providing a raised section over the plate, and (d) providing a getter region over the plate; and

performing another one of the providing steps;

performing a further one of the providing steps; and

performing the remaining one of the providing steps such that the control electrodes are operable for selectively extracting electrons from the electron-emissive elements or for selectively passing electrons emitted by the electron-emissive elements, such that the raised section extends over at least part of each control electrode, and such that the getter region is exposed through or/and situated in a primary opening in the raised section.

201. A method as in Claim 200 wherein the performing steps are performed such that the electron-emissive elements are exposed (a) through respective openings through the control electrodes and (b) through respective further openings through the raised section, one of the further openings in the raised section potentially being the primary opening in the raised section.

202. A method as in Claim 201 wherein the step of providing the getter region is initiated after the step of providing the raised section.

203. A method as in Claim 201 wherein the step of providing the getter region comprises providing the getter region over at least part of a specified one of the control electrodes.

204. A method as in Claim 203 wherein the performing steps are performed such that one of the electron-emissive elements is exposed through the opening in the raised section.

205. A method as in Claim 203 wherein the step of providing the getter region comprises selectively depositing getter material into the opening in the raised section.

206. A method as in Claim 205 wherein the step of selectively depositing getter material comprises at least one of electrophoretically/dielectrophoretically depositing getter material and electrochemically depositing getter material.

207. A method as in Claim 203 wherein the performing steps are performed such that no operable electron-emissive element is exposed through the opening in the raised section.

208. A method as in Claim 207 further including the step of providing an electrically insulating region over the specified control electrode such that the getter region later overlies the insulating region.

209. A method as in Claim 200 wherein the getter region overlies the plate at a location between where a consecutive pair of the control electrodes overlie the plate.

210. A method as in Claim 209 further including the step of providing a dielectric layer over the plate such that the raised section, control electrodes, and getter region each laterally overlie at least part of the dielectric layer.

211. A method as in Claim 210 further including the step of providing an electrical conductive intermediate region over at least part of the dielectric layer such that the getter region later overlies at least part of the intermediate region.

212. A method as in Claim 210 wherein the step of providing the getter region comprises selectively depositing getter material into the opening in the raised section.

213. A method as in Claim 212 wherein the performing step is performed such that no operable electron-emissive element is exposed through the opening in the raised section.

214. A method comprising the steps of:

performing one of (a) providing a dielectric layer over a plate, (b) providing a group of electron-emissive elements over the plate, and (c) providing a getter region over the dielectric layer;

performing another one of the providing steps; and

performing the remaining one of the providing steps such that the steps of providing the electron-emissive elements and providing the getter region are initiated after the step of providing the dielectric

layer, such that the electron-emissive elements are situated mostly in respective laterally separated openings in the dielectric layer, such that the getter region contacts, or is connected by directly underlying material to, the dielectric layer, and such that at least part of the getter region is situated above a location between a pair of the openings in the dielectric layer.

215. A method as in Claim 214 further including the step of providing a group of laterally separated control electrodes over the dielectric layer such that, when the dielectric layer, control electrodes, electron-emissive elements, and getter region are all provided, the electron-emissive elements are exposed through respective openings in the control electrodes, and the control electrodes are operable for selectively extracting electrons from the electron-emissive elements or for selectively passing electrons emitted by the electron-emissive elements.

216. A method as in Claim 215 further including the step of providing electrically insulating material over at least part of each control electrode.

217. A method as in Claim 216 wherein the step of providing the getter region comprises providing electrically non-insulating getter material at a location suitable for focusing electrons emitted by the electron-emissive elements.

218. A method as in Claim 215 further including the step of providing a raised section over the dielectric layer such that the raised section extends over the control electrodes and such that the electron-emissive elements are also exposed through respective openings in the raised section.

219. A method as in Claim 218 wherein the step of providing the getter region comprises forming the getter region over at least part of a support region of the raised section.

220. A method as in Claim 219 wherein the step of providing the getter region comprises selectively depositing getter material over electrically conductive material of the support region.

221. A method as in Claim 215 wherein the step of providing the getter region comprises forming the getter region over the dielectric layer at a location between a consecutive pair of the control electrodes.

222. A method as in Claim 221 wherein:

the method further includes the step of providing an electrically conductive intermediate region over the dielectric layer; and

the step of providing the getter region comprises selectively depositing getter material over at least part of the intermediate region.

223. A method as in Claim 221 further including the step of providing a raised section over the

dielectric layer such that the raised section extends over the control electrodes and such that the electron-emissive elements are also exposed through respective openings in the raised section.

224. A method as in Claim 223 wherein the step of providing the getter region comprises selectively depositing getter material into an additional opening in the raised section.

225. A method in which a major opening that starts at a primary surface of a partially fabricated plate structure extends partway through the plate structure, the method comprising the step of physically depositing getter material over the plate structure's primary surface at an average tilt angle which, as measured relative to a line extending generally perpendicular to the plate structure's primary surface, is sufficiently large that the getter material substantially accumulates only partway down into the major opening.

226. A method as in Claim 225 wherein the tilt angle is at least 5°.

227. A method as in Claim 225 wherein the tilt angle is at least 10°.

228. A method as in Claim 225 wherein the plate structure is a partially fabricated component of a flat-panel display.

229. A method as in Claim 228 wherein the flat-panel display is a flat-panel cathode-ray tube display.

230. A method as in Claim 225 wherein the getter material is deposited from a deposition source while the plate structure and the deposition source are translated relative to each other.

231. A method as in the Claim 225 wherein the getter material is deposited from a deposition source which is rotationally largely fixed relative to the plate structure during the depositing step.

232. A method as in Claim 225 wherein the getter material is deposited from a deposition source while the plate structure and the deposition source are rotated relative to each other about an axis extending approximately perpendicular to the plate structure's primary surface.

233. A method as in Claim 225 wherein the depositing step is performed by at least one of evaporation, sputtering, and thermal spraying.

234. A method as in Claim 225 wherein the getter material consists largely of only a single atomic element.

235. A method as in Claim 234 wherein the single atomic element is a metal.

236. A method as in Claim 234 wherein the single atomic element is one of aluminum, titanium, vanadium, iron, zirconium, niobium, molybdenum, barium, tantalum, tungsten, and thorium.

237. A method as in Claim 236 wherein the depositing step is, at least in part, performed by evaporation.

238. A method comprising the step of thermally spraying getter material over part of a partially fabricated component of a flat-panel display.

239. A method as in Claim 238 wherein a major opening starts at a primary surface of the component and extends partway through the component, the thermally spraying step comprising thermally spraying the getter material over the component's primary surface at an average tilt angle which, as measured relative to a line extending generally perpendicular to the component's primary surface, is sufficiently large that the getter material substantially accumulates only partway down into the major opening.

240. A method as in Claim 239 wherein the tilt angle is at least 5°.

241. A method as in Claim 239 wherein the tilt angle is at least 10°.

242. A method as in Claim 239 wherein the getter material is supplied from a deposition source while the

component and the deposition source are translated relative to each other.

243. A method as in Claim 238 wherein a mask is present over the component during the thermally spraying step, the mask permitting getter material to accumulate over certain material of the component while blocking getter material from accumulating over other material of the component.

244. A method as in Claim 243 further including the steps of:

providing the mask so as to contact the component; and, subsequent to the thermally spraying step,

removing the mask from contact with the component so as to remove any getter material accumulated over the mask.

245. A method as in Claim 244 wherein the mask comprises actinic material.

246. A method as in Claim 238 wherein the thermally spraying step comprising at least one of plasma spraying getter material and flame spraying getter material.

247. A method as in Claim 238 wherein the getter material comprises at least one of aluminum, titanium, vanadium, iron, zirconium, niobium, molybdenum, barium, tantalum, tungsten, and thorium.

248. A method as in Claim 238 wherein the flat-panel display is a flat-panel cathode-ray tube display.

249. A method as in Claim 248 wherein the component is a light-emitting device.

250. A method as in Claim 249 wherein the getter material accumulates over a light-blocking region having an opening in which a light-emissive region is at least partially situated.

251. A method as in Claim 248 wherein the component is an electron-emitting device.

252. A method comprising the step of maskless electrophoretically/dielectrophoretically depositing getter material over part of a partially fabricated component of a flat-panel display.

253. A method as in Claim 252 wherein the getter material selectively accumulates over electrically conductive material of the component as a selected electrical potential is applied to the conductive material.

254. A method as in Claim 252 wherein the getter material comprises at least one of aluminum, titanium, vanadium, iron, zirconium, niobium, molybdenum, barium, tantalum, tungsten, and thorium.

255. A method as in Claim 252 wherein the flat-panel display is a flat-panel cathode-ray tube display.

256. A method as in Claim 255 wherein the component is a light-emitting device.

257. A method as in Claim 255 wherein the component is an electron-emitting device.

258. A method as in Claim 257 wherein the getter material accumulates over an electrically non-insulating focus coating of an electron-focusing system in the electron-emitting device.

259. A method as in Claim 257 wherein the getter material accumulates over a control electrode of the electron-emitting device, the control electrode being operable for selectively extracting electrons from at least one electron-emissive element or for selectively passing electrons emitted by at least one electron-emissive element.

260. A method comprising the step of electrophoretically/dielectrophoretically depositing getter material over part of a partially fabricated electron-emitting device.

261. A method as in Claim 260 wherein the getter material largely accumulates solely over specified electrically conductive material of the device.

262. A method as in Claim 261 further including the step of placing the specified conductive material at a selected electrical potential which causes the

getter material to accumulate over the specified conductive material.

263. A method as in Claim 262 wherein the specified conductive material constitutes material of a control electrode of the device, the control electrode being operable for selectively extracting electrons from at least one electron-emissive element or for selectively passing electrons emitted by at least one electron-emissive element.

264. A method as in Claim 262 wherein the specified conductive material constitutes a focus coating of an electron-focusing system of the device.

265. A method as in Claim 260 wherein the electron-emitting device is a component of a flat-panel cathode-ray tube display.